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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/585,568	06/02/2000	Jens Christian Karger	P19296	5191

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EXAMINER

JIMENEZ, MARC QUEMUEL

ART UNIT PAPER NUMBER

3726

DATE MAILED: 08/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/585,568

Applicant(s)

KARGER ET AL.

Examiner

Marc Jimenez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-27 and 29-60 is/are pending in the application.
- 4a) Of the above claim(s) 4-10,37,40 and 42-60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,11-27,29-36,38,39 and 41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/28/03 has been entered.

Specification

2. The title and abstract of the invention is not descriptive. A new title and abstract is required that is clearly indicative of the invention to which the claims are directed (elected product claims).

Claim Objections

3. Claim 2 is objected to because of the following informalities: claim 2 recites "said metallic fillers comprise metal" which is a redundant claim limitation. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1, 2, 11-21, 25, 29-33, 35, 36, 38, 39, and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art [AAPA] (page 1 to page 2 of applicant's specification) in view of Eddy et al. (4,321,033).

[AAPA] teach that it is known to have an elastic roller comprising a hard roller core (page 1, lines 10-11), an elastic coating layer (page 2, lines 23-24) on an outside of the hard roller core, the elastic coating layer comprising an elastic matrix material and fillers imbedded in the matrix material (page 2, lines 23-24), wherein the elastic coating layer has a smooth surface structured and arranged for smoothing paper webs, wherein the elastic roller is formed with a length within a range of 3 to 12 m and a diameter within a range of 450 to 1500 mm and is structured to withstand compressive forces of up to 130 N/mm² (page 1, lines 21-23).

However, [AAPA] does not specifically teach metal fillers, the thermal conductivity of the fillers being considerably higher than a thermal conductivity of the matrix material, and the at least a portion of the fillers comprising the metallic fillers are arranged to improve thermal conductivity of the elastic coating layer such that heat is dissipated toward the hard roller core and dissipated axially by the hard roller core.

Eddy et al. teach a hard roller core **17** with an elastic coating layer **19** comprising an elastic matrix material and metal (col. 2, line 44) fillers **12** imbedded in the matrix material, wherein the thermal conductivity of the fillers **12** is considerably higher than a thermal conductivity of the matrix material (col. 4, lines 10-14). It is inherent that the at least a portion of

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the fillers 12 comprising the metallic fillers are “arranged” to improve thermal conductivity of the elastic coating layer such that heat is dissipated toward the hard roller core and dissipated axially by the hard roller core because the roller of Eddy et al. meets the structural limitations required in claim 1, namely an elastic matrix with metal fillers imbedded in the matrix material. The roll of Eddy et al. is capable of performing the function: “to improve thermal conductivity of the elastic coating layer such that heat is dissipated toward the hard roller core and dissipated axially by the hard roller core”.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of [AAPA] with metal fillers, the thermal conductivity of the fillers being considerably higher than a thermal conductivity of the matrix material, and the at least a portion of the fillers comprising the metallic fillers being arranged to improve thermal conductivity of the elastic coating layer such that heat is dissipated toward the hard roller core and dissipated axially by the hard roller core, in light of the teachings of Eddy et al., in order to provide a roll with a thicker layer of elastomeric coating which would also result in a longer life roll as suggested by Eddy et al. at col. 4, lines 22-24.

Regarding the limitation “heat dissipated toward the hard roller core and dissipated axially by the hard roller core”, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA

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1963). Eddy et al. meet the structural limitations of the claims and is clearly capable of performing the intended use. For example, if heat was placed on the outer surface of the roller 16, heat would dissipate towards the hard roller core 17.

Regarding claim 2, Eddy et al. teach that the hard roller core is metal (col. 3, lines 22-23).

Regarding claims 11, 14, 38, and 41, Eddy et al. teach that the fillers are metal fibers (col. 2, lines 44-45) arranged in the axial direction.

Regarding claim 15, Eddy et al. teach that there is a portion of the fibers that is a predominant portion of the fibers (close to the core 17).

Regarding claim 16, Eddy et al. teach that the at least a portion of the fibers 12 is aligned in the radial direction.

Regarding claims 17-19, Eddy et al. teach that the fibers having a predominant portion of fibers and aligned in statistical distribution.

Regarding claim 20, Eddy et al. teach that the fibers are arranged in a fiber layer.

Regarding claim 21, Eddy et al. teach that the metallic fillers are elastically formed because metal is at least minimally elastic.

Regarding claim 25, Eddy et al. teach that the metal fillers 11 are arranged to extend up to a radially outer surface of the elastic matrix material 19.

Regarding claim 29, Eddy et al. teach that the metal fibers extends inwardly up to a surface of the hard roller core 17.

Regarding claim 30, Eddy et al. teach that the thermal expansion coefficient of the metallic fillers 11 is smaller than a thermal expansion coefficient of the matrix material 19 (which is an elastomer).

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Regarding claim 31, Eddy et al. teach that the thermal expansion coefficient of the metallic fillers **11** is substantially the same as the thermal expansion coefficient of the hard roller core **17** because both are metal.

Regarding claim 32, Eddy et al. teach a functional layer **12** and a connecting layer **11** and **14**.

Regarding claim 33, Eddy et al. teach that the matrix material is plastic (col. 3, lines 57-61).

Regarding claim 35, Eddy et al. teach that the matrix material comprises a resin-hardener combination (col. 3, lines 47-48).

Regarding claim 36, Eddy et al. teach that the fillers **11** is substantially uniformly distributed.

Regarding claim 39, Eddy et al. teach that the concentration of metallic fillers **12** increases toward the roller core **17**. Fillers are more condensed near the core.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of [AAPA] with the features of claims 2, 11, 14-21, 25, 29-33, 35, 36, 38, 39, and 41, in light of the teachings of Eddy et al., in order to provide added reinforcement and heat dissipation means for the roll.

Regarding claims 12 and 13, [AAPA]/Eddy et al. teach the invention cited with the exception of the fillers being made of “metal-coated” fibers.

At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art, to have used “metal-coated” fibers because applicant has not disclosed that metal coated fibers provides an advantage, is used for a particular

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purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equally well with either the metal filler taught by Eddy et al. or the claimed "metal-coated" fibers because both fibers perform the same function of increasing the thermal conductivity of the roller. Therefore, it would have been an obvious matter of design choice to modify Eddy et al. to obtain the invention as specified in Claims 12 and 13.

6. **Claims 22-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over [AAPA] in view of Eddy et al. as applied to claim 22 above, and further in view of Sukenik (3,852,862).

[AAPA]/Eddy et al. teach the invention cited with the exception of having additional fillers comprising at least one of carbon and glass fibers (as recited in claim 23) or at least one of quartz and PTFE (as recited in claim 24).

Sukenik teaches additional fillers (col. 1, lines 32-34) comprising glass or quartz (col. 1, lines 60-61).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of [AAPA]/Eddy et al. with glass or quartz, in light of the teachings of Sukinek, in order to provide added strength and reinforcement.

7. **Claims 26 and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over [AAPA] in view of Eddy et al. as applied to claims 25 and 1 respectively above, and further in view of Brouwer (5,735,388).

[AAPA]/Eddy et al. teach the invention cited with the exception of the fillers

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penetrating the outer surface or the outer surface is coated with metal.

Brouwer teaches fillers penetrating the outer surface **102**. The outer surface is coated with metal **102**.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided the invention of [AAPA]/Eddy et al. with fillers penetrating the outer surface or the outer surface coated with metal, in light of the teachings of Brouwer, in order to provide a friction enhancing surface.

8. **Claim 34** is rejected under 35 U.S.C. 103(a) as being unpatentable over [AAPA] in view of Eddy et al. as applied to claim 33, and further in view of Yamamoto et al. (4,990,963).

[AAPA]/Eddy et al. teach the invention cited with the exception of the plastic material comprising one of thermosetting resin or thermoplastic material.

Yamamoto et al. teach using thermosetting resins (col. 3, lines 49-54).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provide the invention of Eddy et al. with thermosetting resins, in light of the teachings of Yamamoto et al., in order to provide a resin material that is elastic and retains its form.

Response To Arguments

9. Applicant's arguments with respect to claims 1, 2, 11-27, 29-36, 38, 39, and 41 have been considered but are moot in view of the new ground(s) of this non-final rejection.

10. Regarding the Eddy et al. reference including additional structure (heating element within the core to radiate heat outwardly) not required by applicant's invention, it must be noted that the

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reference discloses the invention as claimed. The fact that it discloses additional structure not claimed is irrelevant. Although Eddy expressly describes that heat is dissipated outwardly, it is noted that the roll of Eddy still has the claimed structure, namely an elastic matrix material 19 with metal fibers 12. It is inherent that heat will be dissipated toward the hard roller core and dissipated axially by the hard roller core because Eddy meets the claimed structural features of the roll. The metallic fillers 12 of Eddy et al. are added to improve thermal conductivity of the elastic coating layer. Furthermore, the limitation "heat is dissipated toward the hard roller core and dissipated axially by the hard roller core" is not a further limiting structural limitation. Heat dissipation does not add structure to the roll.

Contact Information

11. Telephone inquiries regarding the status of applications or other general questions, by persons entitled to the information, should be directed to the group clerical personnel. In as much as the official records and applications are located in the clerical section of the examining groups, the clerical personnel can readily provide status information. M.P.E.P. 203.08. The Group clerical receptionist number is (703) 308-1148.

If in receiving this Office Action it is apparent to applicant that certain documents are missing, e.g., copies of references cited, form PTO-1449, form PTO-892, etc., requests for copies of such papers or other general questions should be directed to Tech Center 3700 Customer Service at (703) 306-5648, or fax (703) 872-9301 or by email to CustomerService3700@uspto.gov.

Any inquiry concerning this communication or earlier communications from the

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examiner should be directed to Marc Jimenez whose telephone number is **703-306-5965**. The examiner can normally be reached on **Monday-Friday, between 5:30 am- 2:00 pm**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Vidovich can be reached on 703-308-1513. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.

Other helpful telephone numbers are listed for applicant's benefit.

Allowed Files & Publication	(703) 308-6789 or (888) 786-0101
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Marc Jimenez
Patent Examiner
AU 3726

MJ
August 7, 2003